

REMARKS

This is intended as a full and complete response to the Office Action dated August 28, 2008, having a shortened statutory period for response set to expire on November 28, 2008. Please reconsider the claims pending in the application for the reasons discussed below.

Claims 1, 2, 4-6, 8-10, 12-16, 19-24 and 26 remain pending in the application and are shown above. Claims 1, 2, 4-6, 8-10, 12-16, 19-24 and 26 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for the reasons presented below.

Claim 22 has been amended to correct a grammatical error. Applicants respectfully assert that the amendment introduces no new matter. The amendment is not presented to distinguish a reference, thus, the claim as amended is entitled to a full range of equivalents.

Claims 1, 2, 4-6, 8-10, 12-16, 19-24, and 26 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse the rejection.

The Examiner has stated that the limitation of "sequentially" and "processing angle is different than the first angle and the second angle" are considered to be new matter (See office action, page 3). The Examiner is respectfully directed to paragraphs [0036] – [0040] and Figures 4-8 which describes the process sequence and various angles recited in the claims. Withdrawal of the rejection is respectfully requested.

Claims 1, 2, 4, 8, 9, 12-16, 20-24, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,582,578 B1 to *Dordi et al.* in view of U.S. Patent Application Publication No. 2003/0057098 A1 to *Sendai et al.* Applicants respectfully traverse the rejection.

The Examiner has stated that *Dordi et al.* "differs from the instant claims in that the reference teaches positioning the substrate parallel to the surface of the anode in the horizontal position but does not explicitly disclose tilting the anode." (See office action, page 4). To cure the deficiencies of *Dordi et al.*, the Examiner states that *Sendai et al.* teaches "an electroplating method wherein the tilt angle is greater than 0 degrees at a time when the substrate becomes completely immersed in the fluid solution (paragraph 25); the anode is tilted from horizontal at an angle of between about 1 and 10 degrees (paragraph 91); and the central axis of the substrate proximate is centered on the electrolyte solution (figures 11-12)." (See office action, page 4). The Examiner reasons that it would have been obvious to modify *Dordi et al.* with *Sendai et al.* "by tilting the substrate and the anode to the processing angle" of *Sendai et al.* "because tilting the anode would prevent air bubbles from remaining on the surface to be plated and would enhance plating uniformity" (See office action, page 4).

Applicants respectfully note that *Sendai et al.* is not moving the substrate from horizontal once it is immersed in the solution. As recognized by the Examiner, the tilt angle for *Sendai et al.* is greater than 0 degrees when the substrate is completely immersed. Then, the substrate is parallel with the anode that is tilted from horizontal during the plating process. At no time does *Sendai et al.* disclose or suggest a horizontal position for the substrate once it is immersed. *Dordi et al.*, as noted by the Examiner, reduces the tilt angle of the substrate to horizontal and then the substrate is electroplated in the horizontal position.

Applicants respectfully submit that when *Dordi et al.* is modified by *Sendai et al.*, the substrate would not be horizontal after immersion. Rather, *Dordi et al.*'s tilting to a horizontal position for electroplating would be replaced by *Sendai et al.*'s tilt for plating. Because *Dordi et al.*'s horizontal position is for processing and *Sendai et al.*'s tilt is for processing, one of ordinary skill in the art would replace one processing position for the other, not utilize both. It is respectfully submitted that the horizontal position of *Dordi et al.* would not be present when *Dordi et al.* is modified by *Sendai et al.* as proposed by the Examiner.

Therefore, *Dordi et al.* and *Sendai et al.*, together or in combination, do not teach, show, suggest, or otherwise render obvious a method for immersing a substrate comprising tilting a receiving member to a second tilt angle measured from horizontal when the substrate contacts a fluid solution, tilting the receiving member to about horizontal, and then positioning the substrate at a processing angle from horizontal that is different than the first and second angles, as recited in claim 1 and claims dependent thereon. Similarly, *Dordi et al.* and *Sendai et al.* do not teach, show, suggest, or otherwise render obvious a method for minimizing bubble adherence to a substrate during a substrate immersion process comprising tilting the substrate to a tilt angle, reducing the tilt angle to a second angle once the substrate contacts the fluid solution, reducing the tilt angle to about horizontal, and then positioning the substrate at a processing angle different than the tilt and second angle, as recited in claim 8 and claims dependent thereon. *Dordi et al.* and *Sendai et al.* also do not teach, show, suggest, or otherwise render obvious a method for immersing a substrate comprising tilting a contact ring to a tilt angle, reducing the tilt angle to a second angle when the contact ring initially touches the plating electrolyte, reducing the tilt angle to about horizontal, and then positioning the substrate in a processing position different than the tilt angle or the second angle, as recited in claim 15 and claims dependent thereon. *Dordi et al.* and *Sendai et al.* do not teach, show, suggest, or otherwise render obvious a method for immersing a substrate comprising pivoting a receiving member from a first tilt angle to a second tilt angle different than the first tilt angle and then tilting the substrate held by the receiving member to a third tilt angle different than the first and second tilt angles, as recited in claim 23 and claims dependent thereon.

Claims 5, 6, 10 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,582,578 B1 to *Dordi et al.* in view of U.S. Patent Application Publication No. 2003/0057098 A1 to *Sendai et al.*, and further in view of U.S. Patent Application No. 2002/0084189 to *Wang et al.* Applicants respectfully traverse the rejection.

The deficiencies of *Dordi et al.* and *Sendai et al.* are described above. *Wang et al.* does not cure the deficiencies of *Dordi et al.* and *Sendai et al.* Additionally, claims 5, 6,

10, and 19 depend from claims 1, 8, and 15 and contain all of the limitations of the claims from which they depend. Therefore, it is respectfully asserted that claims 5, 6, 10, and 19 should be allowable for at least the same reasons as claims 1, 8, and 15. Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

By 

Keith M. Tackett
Registration No.: 32,008
PATTERSON & SHERIDAN, LLP
3040 Post Oak Blvd, Suite 1500
Houston, Texas 77056
(713) 623-4844
Attorney for Applicants